```
===============================================================
```
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: Mon May 21 13:16:15 EDT 2007
```
===============================================================
```

Application No: 10578976 Version No: 1.0

Input Set:

Output Set:

Started: 2007-05-21 11:49:19.739

Finished: 2007-05-21 11:49:19.938

Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 199 ms

Total Warnings: 0

Total Errors: 0

No. of SeqIDs Defined: 4

Actual SeqID Count: 4

Met Ala Gly Asp Leu Ser Ala Gly Phe Phe Met Glu Glu Leu Asn Thr
1   5   10   15

Tyr Arg Gln Lys Gln Gly Val Val Leu Lys Tyr Gln Glu Leu Pro Asn
            20   25   30

Ser Gly Pro Pro His Asp Arg Arg Phe Thr Phe Gln Val Ile Ile Asp
        35   40   45

Gly Arg Glu Phe Pro Glu Gly Glu Gly Arg Ser Lys Lys Glu Ala Lys
    50   55   60

Asn Ala Ala Ala Lys Leu Ala Val Glu Ile Leu Asn Lys Glu Lys Lys
65   70   75   80

Ala Val Ser Pro Leu Leu Leu Thr Thr Thr Asn Ser Ser Glu Gly Leu
                85   90   95

Ser Met Gly Asn Tyr Ile Gly Leu Ile Asn Arg Ile Ala Gln Lys Lys
            100   105   110

Arg Leu Thr Val Asn Tyr Glu Gln Cys Ala Ser Gly Val His Gly Pro
        115   120   125

```
Glu Gly Phe His Tyr Lys Cys Lys Met Gly Gln Lys Glu Tyr Ser Ile
    130                 135                 140

Gly Thr Gly Ser Thr Lys Gln Glu Ala Lys Gln Leu Ala Ala Lys Leu
145                 150                 155                 160

Ala Tyr Leu Gln Ile Leu Ser Glu Glu Thr Ser Val Lys Ser Asp Tyr
                165                 170                 175

Leu Ser Ser Gly Ser Phe Ala Thr Thr Cys Glu Ser Gln Ser Asn Ser
                180                 185                 190

Leu Val Thr Ser Thr Leu Ala Ser Glu Ser Ser Ser Glu Gly Asp Phe
                195                 200                 205

Ser Ala Asp Thr Ser Glu Ile Asn Ser Asn Ser Asp Ser Leu Asn Ser
    210                 215                 220

Ser Ser Leu Leu Met Asn Gly Leu Arg Asn Asn Gln Arg Lys Ala Lys
225                 230                 235                 240

Arg Ser Leu Ala Pro Arg Phe Asp Leu Pro Asp Met Lys Glu Thr Lys
                245                 250                 255

Tyr Thr Val Asp Lys Arg Phe Gly Met Asp Phe Lys Glu Ile Glu Leu
                260                 265                 270

Ile Gly Ser Gly Gly Phe Gly Gln Val Phe Lys Ala Lys His Arg Ile
                275                 280                 285

Asp Gly Lys Thr Tyr Val Ile Lys Arg Val Lys Tyr Asn Asn Glu Lys
    290                 295                 300

Ala Glu Arg Glu Val Lys Ala Leu Ala Lys Leu Asp His Val Asn Ile
305                 310                 315                 320

Val His Tyr Asn Gly Cys Trp Asp Gly Phe Asp Tyr Asp Pro Glu Thr
                325                 330                 335

Ser Asp Asp Ser Leu Glu Ser Ser Asp Tyr Asp Pro Glu Asn Ser Lys
                340                 345                 350
```

Asn Ser Ser Arg Ser Lys Thr Lys Cys Leu Phe Ile Gln Met Glu Phe
        355   360   365

Cys Asp Lys Gly Thr Leu Glu Gln Trp Ile Glu Lys Arg Arg Gly Glu
    370   375   380

Lys Leu Asp Lys Val Leu Ala Leu Glu Leu Phe Glu Gln Ile Thr Lys
385   390   395   400

Gly Val Asp Tyr Ile His Ser Lys Lys Leu Ile His Arg Asp Leu Lys
                405   410   415

Pro Ser Asn Ile Phe Leu Val Asp Thr Lys Gln Val Lys Ile Gly Asp
                420   425   430

Phe Gly Leu Val Thr Ser Leu Lys Asn Asp Gly Lys Arg Thr Arg Ser
        435   440   445

Lys Gly Thr Leu Arg Tyr Met Ser Pro Glu Gln Ile Ser Ser Gln Asp
    450   455   460

Tyr Gly Lys Glu Val Asp Leu Tyr Ala Leu Gly Leu Ile Leu Ala Glu
465   470   475   480

Leu Leu His Val Cys Asp Thr Ala Phe Glu Thr Ser Lys Phe Phe Thr
                485   490   495

Asp Leu Arg Asp Gly Ile Ile Ser Asp Ile Phe Asp Lys Lys Glu Lys
            500   505   510

Thr Leu Leu Gln Lys Leu Leu Ser Lys Lys Pro Glu Asp Arg Pro Asn
        515   520   525

Thr Ser Glu Ile Leu Arg Thr Leu Thr Val Trp Lys Lys Ser Pro Glu
    530   535   540

Lys Asn Glu Arg His Thr Cys
545   550

<210>   2
<211>   2808
<212>   DNA
<213>   Homo sapiens

<400> 2

```
gcggcggcgg cggcgcagtt tgctcatact ttgtgacttg cggtcacagt ggcattcagc      60

tccacacttg gtagaaccac aggcacgaca agcatagaaa catcctaaac aatcttcatc     120

gaggcatcga ggtccatccc aataaaaatc aggagaccct ggctatcata gaccttagtc     180

ttcgctggta tactcgctgt ctgtcaacca gcggttgact tttttttaagc cttctttttt    240

ctcttttacc agtttctgga gcaaattcag tttgccttcc tggatttgta aattgtaatg     300

acctcaaaac tttagcagtt cttccatctg actcaggttt gcttctctgg cggtcttcag     360

aatcaacatc cacacttccg tgattatctg cgtgcatttt ggacaaagct tccaaccagg     420

atacgggaag aagaaatggc tggtgatctt tcagcaggtt tcttcatgga ggaacttaat     480

acataccgtc agaagcaggg agtagtactt aaatatcaag aactgcctaa ttcaggacct     540

ccacatgata ggaggtttac atttcaagtt ataatagatg gaagagaatt tccagaaggt     600

gaaggtagat caaagaagga agcaaaaaat gccgcagcca aattagctgt tgagatactt     660

aataaggaaa agaaggcagt tagtcctta  ttattgacaa caacgaattc ttcagaagga     720

ttatccatgg ggaattacat aggccttatc aatagaattg cccagaagaa aagactaact     780

gtaaattatg aacagtgtgc atcggggggtg catgggccag aaggatttca ttataaatgc     840

aaaatgggac agaaagaata tagtattggt acaggttcta ctaaacagga agcaaaacaa     900

ttggccgcta aacttgcata tcttcagata ttatcagaag aaacctcagt gaaatctgac     960

tacctgtcct ctggttcttt tgctactacg tgtgagtccc aaaagcaactc tttagtgacc    1020

agcacactcg cttctgaatc atcatctgaa ggtgacttct cagcagatac atcagagata    1080

aattctaaca gtgacagttt aaacagttct tcgttgctta tgaatggtct cagaaataat    1140

caaaggaagg caaaaagatc tttggcaccc agatttgacc ttcctgacat gaaagaaaca    1200

aagtatactg tggacaagag gtttggcatg gattttaaag aaatagaatt aattggctca    1260

ggtggatttg gccaagtttt caaagcaaaa cacagaattg acggaaagac ttacgttatt    1320

aaacgtgtta aatataataa cgagaaggcg gagcgtgaag taaaagcatt ggcaaaactt    1380

gatcatgtaa atattgttca ctacaatggc tgttgggatg gatttgatta tgatcctgag    1440

accagtgatg attctcttga gagcagtgat tatgatcctg agaacagcaa aaatagttca    1500

aggtcaaaga ctaagtgcct tttcatccaa atggaattct gtgataaagg gaccttggaa    1560

caatggattg aaaaaagaag aggcgagaaa ctagacaaag ttttggcttt ggaactcttt    1620

gaacaaataa caaaaggggt ggattatata cattcaaaaa aattaattca tagagatctt    1680
```

```
aagccaagta atatattctt agtagataca aaacaagtaa agattggaga ctttggactt      1740

gtaacatctc tgaaaaatga tggaaagcga acaaggagta agggaacttt gcgatacatg      1800

agcccagaac agatttcttc gcaagactat ggaaggaag tggacctcta cgctttgggg       1860

ctaattcttg ctgaacttct tcatgtatgt gacactgctt ttgaaacatc aaagtttttc      1920

acagacctac gggatggcat catctcagat atatttgata aaaaagaaaa aactcttcta      1980

cagaaattac tctcaaagaa acctgaggat cgacctaaca catctgaaat actaaggacc      2040

ttgactgtgt ggaagaaaag cccagagaaa aatgaacgac acacatgtta gagcccttct      2100

gaaaaagtat cctgcttctg atatgcagtt ttccttaaat tatctaaaat ctgctaggga      2160

atatcaatag atatttacct tttattttaa tgtttccttt aattttttac tattttttact     2220

aatctttctg cagaaacaga aaggttttct tctttttgct tcaaaaacat tcttacattt      2280

tacttttttcc tggctcatct ctttattctt ttttttttttt ttaaagacag agtctcgctc    2340

tgttgcccag gctggagtgc aatgacacag tcttggctca ctgcaacttc tgcctcttgg      2400

gttcaagtga ttctcctgcc tcagcctcct gagtagctgg attacaggca tgtgccaccc      2460

acccaactaa ttttgtgtt tttaataaag acagggtttc accatgttgg ccaggctggt        2520

ctcaaactcc tgacctcaag taatccacct gcctcggcct cccaaagtgc tgggattaca      2580

gggatgagcc accgcgccca gcctcatctc tttgttctaa agatggaaaa accacccca       2640

aattttcttt ttatactatt aatgaatcaa tcaattcata tctatttatt aaatttctac      2700

cgcttttagg ccaaaaaaat gtaagatcgt tctctgcctc acatagctta caagccagct      2760

ggagaaatat ggtactcatt aaaaaaaaaa aaaagtgat gtacaacc                     2808


<210>   3
<211>   515
<212>   PRT
<213>   Mus musculus

<400>   3

Met Ala Ser Asp Thr Pro Gly Phe Tyr Met Asp Lys Leu Asn Lys Tyr
1               5                   10                  15


Arg Gln Met His Gly Val Ala Ile Thr Tyr Lys Glu Leu Ser Thr Ser
            20                  25                  30


Gly Pro Pro His Asp Arg Arg Phe Thr Phe Gln Val Leu Ile Asp Glu
        35                  40                  45
```

Lys Glu Phe Pro Glu Ala Lys Gly Lys Ser Lys Gln Glu Ala Arg Asn
    50   55   60

Ala Ala Ala Lys Leu Ala Val Asp Ile Leu Asp Asn Glu Asn Lys Val
65   70   75   80

Asp Cys His Thr Ser Ala Ser Glu Gln Gly Leu Pro Tyr Gly Asn Tyr
                85   90   95

Ile Gly Leu Val Asn Ser Phe Ala Gln Lys Lys Lys Leu Ser Val Asn
            100   105   110

Tyr Glu Gln Cys Glu Pro Asn Ser Glu Leu Pro Gln Arg Phe Ile Cys
            115   120   125

Lys Cys Lys Ile Gly Gln Thr Met Tyr Gly Thr Gly Ser Gly Val Thr
    130   135   140

Lys Gln Glu Ala Lys Gln Leu Ala Ala Lys Glu Ala Tyr Gln Lys Leu
145   150   155   160

Leu Lys Ser Pro Pro Lys Thr Ala Gly Thr Ser Ser Ser Val Val Thr
            165   170   175

Ser Thr Phe Ser Gly Phe Ser Ser Ser Ser Met Thr Ser Asn Gly
            180   185   190

Val Ser Gln Ser Ala Pro Gly Ser Phe Ser Ser Glu Asn Val Phe Thr
            195   200   205

Asn Gly Leu Gly Glu Asn Lys Arg Lys Ser Gly Val Lys Val Ser Pro
    210   215   220

Asp Asp Val Gln Arg Asn Lys Tyr Thr Leu Asp Ala Arg Phe Asn Ser
225   230   235   240

Asp Phe Glu Asp Ile Glu Glu Ile Gly Leu Gly Gly Phe Gly Gln Val
            245   250   255

Phe Lys Ala Lys His Arg Ile Asp Gly Lys Arg Tyr Ala Ile Lys Arg
            260   265   270

Val Lys Tyr Asn Thr Glu Lys Ala Glu His Glu Val Gln Ala Leu Ala
        275   280   285

Glu Leu Asn His Val Asn Ile Val Gln Tyr His Ser Cys Trp Glu Gly
        290   295   300

Val Asp Tyr Asp Pro Glu His Ser Met Ser Asp Thr Ser Arg Tyr Lys
305   310   315   320

Thr Arg Cys Leu Phe Ile Gln Met Glu Phe Cys Asp Lys Gly Thr Leu
                325   330   335

Glu Gln Trp Met Arg Asn Arg Asn Gln Ser Lys Val Asp Lys Ala Leu
                340   345   350

Ile Leu Asp Leu Tyr Glu Gln Ile Val Thr Gly Val Glu Tyr Ile His
        355   360   365

Ser Lys Gly Leu Ile His Arg Asp Leu Lys Pro Gly Asn Ile Phe Leu
        370   375   380

Val Asp Glu Arg His Ile Lys Ile Gly Asp Phe Gly Leu Ala Thr Ala
385   390   395   400

Leu Glu Asn Asp Gly Lys Ser Arg Thr Arg Arg Thr Gly Thr Leu Gln
                405   410   415

Tyr Met Ser Pro Glu Gln Leu Phe Leu Lys His Tyr Gly Lys Glu Val
                420   425   430

Asp Ile Phe Ala Leu Gly Leu Ile Leu Ala Glu Leu Leu His Thr Cys
        435   440   445

Phe Thr Glu Ser Glu Lys Ile Lys Phe Phe Glu Ser Leu Arg Lys Gly
        450   455   460

Asp Phe Ser Asn Asp Ile Phe Asp Asn Lys Glu Lys Ser Leu Leu Lys
465   470   475   480

Lys Leu Leu Ser Glu Lys Pro Lys Asp Arg Pro Glu Thr Ser Glu Ile
                485   490   495

Leu Lys Thr Leu Ala Glu Trp Arg Asn Ile Ser Glu Lys Lys Lys Arg

```
                  500                   505                    510



Asn Thr Cys
          515



<210>   4
<211>   2380
<212>   DNA
<213>   Mus musculus

<400>   4
accggccagg cccggacttc catgggcagc agcagcggca gggaacggag ggcgaataga     60

tttcagagcc tgcacctgaa gtacaattcg aatcctgctc cagggagcga gccactgtcc    120

ggatccagaa actttggcca ctgggaggaa aaatggccag tgataccccca ggtttctaca    180

tggacaaact taataaatac cgccagatgc acggagtagc cattacgtat aaagaactta    240

gtacttcggg acctccacat gacagaaggt ttacatttca gttttaata gatgagaagg    300

aatttccaga agccaaaggt aaatcaaagc aggaggcaag aaacgctgca gccaaattag    360

ctgttgatat acttgataac gaaaacaagg tggattgtca cacgagtgca tctgagcaag    420

gcttgcccta tggtaactac ataggccttg tcaatagctt tgcccagaag aaaaagctgt    480

ctgtaaatta tgaacagtgt gagcccaact ctgagttgcc tcaaagattt atttgtaaat    540

gcaaaattgg gcagacgatg tatggtactg gttcaggtgt caccaaacag gaggcaaagc    600

agttggctgc gaaagaagcc tatcagaagc tgttaaagag cccgccgaaa actgccggaa    660

catcctctag cgttgtcaca tctacattca gtggcttttc cagcagctcg tctatgacaa    720

gtaatggtgt ttcccagtca gcacctggaa gttttttcctc agagaacgtg tttacgaacg    780

gtctcggaga aaataaaagg aaatcaggag taaaagtatc ccctgatgat gtgcaaagaa    840

ataaatatac cttggacgcc aggtttaaca gcgattttga agacatagaa gaaattggct    900

taggtggatt tggtcaagtt ttcaaagcga aacacagaat tgatggaaag agatacgcta    960

ttaagcgcgt taaatataac acggagaagg cggagcacga agtacaagcg ctggcagaac   1020

tcaatcacgt caacattgtc caataccata gttgttggga gggagttgac tatgatcctg   1080

agcacagcat gagtgataca agtcgataca aaacccggtg cctctttatt caaatggaat   1140

tctgtgataa aggaactttg gagcaatgga tgagaaacag aaatcagagt aaagtggaca   1200

aagctttgat tttggactta tatgaacaaa tcgtgaccgg agtggagtat atacactcga   1260

aagggttaat tcacagagat cttaagccag gtaatatatt tttagtagat gaaagacaca   1320
```

```
ttaagatcgg agactttggc cttgcaacag ccctggaaaa tgatggaaaa tcccgaacaa    1380

ggagaacagg aactcttcaa tatatgagtc cagaacagtt atttttaaag cactatggaa    1440

aagaagtgga catctttgct ttgggcctta ttctagctga acttcttcac acgtgcttca    1500

cggagtcaga gaaaataaag tttttcgaaa gtctaagaaa aggcgacttc tctaatgata    1560

tattcgacaa caaagaaaaa agccttctaa aaaaactact ctcagagaaa cccaaggacc    1620

gacctgagac atctgaaatc ctgaagacct tggctgaatg gaggaacatc tcagagaaaa    1680

agaaaagaaa cacatgttag ggcctttctg agaaaacatt cctctgccgt ggttttcctt    1740

taacgatctg cagtctgagg ggagtatcag tgaatattat ccttcttttc ttaataccac    1800

tctcccagac aggttttggt tagggtgacc cacagacatt gtatttatta ggctatgaaa    1860

aagtatgccc atttcctcaa ttgttaattg ctgggcctgt ggctggctag ctagccaaat    1920

atgtaaatgc ttgtttctcg tctgcccaaa gagaaaggca ggctcctgtg tgggaagtca    1980

cagagccccc aaagccaact ggatgaggaa ggactctggc ttttggcata aaaaagagct    2040

ggtagtcaga gctggggcag aaggtcctgc agacagacag acagacagac agacagacag    2100

agacacaaag acatggacta gaatggagga gggagggagg aagggaggga gggagagaga    2160

gagagagaaa gaaagagaga gagaccacat ggagagacaa aatggcttaa gttagctggg    2220

ctaactgaga gactgtccca gaaaacaggc caacaacctt ccttatgcta tatagatgtc    2280

tcagtgtctt tatcattaaa caccaagcag gactgctaaa aactctgcaa tagggttttt    2340

ttttcctgtt acttcaaaag caaaaaaaaa aaaaaaaaa                           2380
```